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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,252

09/21/2005

Riki Okamoto

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KENYON & KENYON LLP  
ONE BROADWAY  
NEW YORK, NY 10004

EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

1793

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,252	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> Deborah Yee	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claim 6 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 7, 2007.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 2001-342543 (hereinafter JP'543) or US Patent 6,364,968 to Yashuara et al (hereinafter US'968) alone or in view of US Patent 5,470,529 to Nomura et al. (hereinafter US'529) for the reasons set forth in the previous office action dated December 4, 2007.

### ***Response to Arguments***

4. Applicant's arguments filed April 7, 2008 have been fully considered but they are not persuasive.
5. JP'543 discloses specific hot rolled steel sheet example V in table on page 10 that meets the claimed composition; and when calculated, satisfies claimed equations <1> and <2>; and when calculated, closely satisfies claimed equation <3> , with a value of 464.75 which closely approximates >465 . In addition steel V is processed

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according to steel V1 and V2 in the table on page 11 to exhibit tensile strength (TS) of  $1043\text{N/mm}^2$  and  $1038\text{ N/mm}^2$  and hole expandability ( $\lambda$ ) at 55% and 65%, and are within the inventive TS range of at least  $980\text{ N/ mm}^2$  and  $\lambda = 48$  to 73%, respectively.

6. Applicant argued that since steel V does not satisfy equation <3>, then  $\lambda$  is deteriorated as shown in steels V1 and V2. In response to argument, steels V1 and V2 have  $\lambda$  at 55% and 65%, respectively and are within Applicant's  $\lambda$  range of 48 to 73% .

7. It was argued that inventive claims recite substantially no Mg to achieve high TS and  $\lambda$  whereas JP'543 requires 0.0005 to 0.01% Mg, and in particular steel V contains 0.0031% in order to achieve high TS and  $\lambda$ . It is the Examiner's position that "substantially no Mg" recited by Applicant's claims is a general non-numerical limitation which would suggest the presence of small amount amounts of Mg because of the term "substantially". Hence the steel of JP'543 which can contain Mg as low as 0.0005% would not appear to be excluded from the limitation "substantially no Mg".

8. Even though JP'543 does not teach Mo and/or V as recited by claim 2, such would not be a patentable difference. Note that it is well known and conventional practice to add small amounts of Mo or V to analogous low-alloy steels to improve hot workability and/or strength as evident by US'968, lines 59 to line 9 of column 8; and US' 543, lines 43 to 54 in column 9. Since hot workability and strength are desired by JP'543, then it would an obvious modification well within the skill of the artisan in view of secondary teachings to incorporate small amounts of Mo or V to the steel of JP'543. Moreover when adding elements to steel V, equation limitations recited by claim 2 would appear to be closely met.

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9. With regard to US'968, it was argued that prior art steel contains 1.0% or less of Si whereas inventive steel contains 1.0% or more Si. It is the Examiner's position that Si ranges still overlap and therefore establish a prima facie case of obviousness.

10. More specifically US'968 teaches steel 7 in tables 1 to 3 of columns 5-18 that closely meets the claimed composition and when calculated, satisfies equations <2> and <3> and closely meets equation <1> with a value of 2.28 slightly higher than the claimed range of <1.7. Prior art steel 7 also has a TS = 1020 MPa which is within the claimed TS range of at least 980 N/ mm<sup>2</sup> (MPa) and has  $\lambda = 155\%$  which is better than the inventive  $\lambda$  range of 48 to 73%. Although prior art steel 7 contains 0.42% Si, it would be obvious to increase since Si range as high as 1% is taught.

11. Even though US'968 does not teach adding V as recited by claim 2, such would not be a patentable difference. Note that it is well known and conventional practice to add small amounts of V to analogous low-alloy steels to improve strength as evident by US'529, lines 43 to 54 in column 9. Since higher strength is desired by US'968, then it would be an obvious modification well within the skill of the artisan in view of secondary teachings to incorporate small amounts of V to the steel of US '968.

Moreover when adding V to steel 7, equation limitations recited by claim 2 would appear to be closely met.

12. Applicant argued that US'529 does not teach a composition and TS value which would suggest the present invention. It is the Examiner's position that US '529 is merely a secondary teaching to show that it is obvious and well known in the art to add V to low-alloy steels to improve strength.

***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/